WHAT IS CLAIMED IS:

1. A method for protecting a kidney in a mammalian patient from an insult comprising:

at least partially occluding at least one renal vein of the patient;

elevating a renal vein blood pressure, and

reducing the renal vein blood pressure from the elevated blood pressure.

2. The method as in claim 1 wherein the blood pressure is elevated during a period of high concentration of contrast in blood of the patient.

3. The method as in claim 1 wherein the elevated blood pressure inhibits a renal function.

4. The method as in claim 3 wherein the inhibited renal function is a reduction in glomerular filtration rate (GFR).

5. The method is in claim 1 wherein insult is a contrast agent and the contrast agent may subject the kidney to radiocontrast nephropathy.

6. The method as in claim 1 wherein partially occluding the renal vein is accomplished by inserting a catheter tip with an inflatable balloon into the renal vein and inflating the balloon.

7. The method as in claim 6 wherein maintaining blood pressure further comprises sensing the renal vein pressure and adjusting the balloon in response to the sensed renal vein pressure.

8. The method as in claim 2 further comprises lodging the catheter in a branch of the renal vein distal of the balloon.

9. The method as in claim 1 further comprising injecting the contrast agent into a blood vessel of the patient.

10. The method as in claim 1 wherein the high concentration of contrast in blood occurs from injection of the contrast into a blood vessel to a fifty percent reduction in the concentration of contrast in blood from a peak contrast concentration.

11. The method as in claim 1 wherein the renal vein blood pressure is elevated to a range of 30 to 60 mmHg.

12. The method as in claim 1 wherein the renal vein pressure is elevated to a range of 30 to 60 mmHg above a baseline venous pressure of the patient.

13. The method as in claim 3 wherein a balloon size is adjusted based on a sensed renal vein pressure.

14. The method for minimizing radiocontrast nephropathy in a mammalian patient comprising:

at least partially occluding at least one renal vein of the patient, and

elevating a renal vein blood pressure during a period during a period coinciding with an injection of contrast in blood of the patient.

15. The method as in claim 14 wherein the blood pressure is elevated during a period of high concentration of the contrast in the blood of the patient.

16. The method as in claim 14 wherein the elevated blood pressure inhibits a renal function.

17. The method as in claim 16 wherein the inhibited renal function is a reduction in glomerular filtration rate (GFR).

18. The method as in claim 14 wherein the renal pressure is elevated prior to the injection of the contrast agent.

19. The method as in claim 14 wherein partially occluding the renal vein is accomplished by inserting an expandable catheter tip.

20. The method as in claim 19 wherein the catheter tip further comprises an inflatable balloon, which is inflated after being positioned in the renal vein.

21. The method as in claim 20 wherein maintaining blood pressure further comprises sensing the renal vein pressure and adjusting the balloon in response to the sensed renal vein pressure.

22. The method as in claim 19 further comprises lodging the catheter tip in a branch of the renal vein distal of the balloon.

23. The method as in claim 14 further comprising injecting the contrast agent into a blood vessel of the patient.

24. The method as in claim 23 further wherein the period of contrast occurs from injection of the contrast into a blood vessel to a fifty percent reduction in the concentration of the contrast in the blood from a peak contrast concentration.

25. The method as in claim 14 wherein the renal vein blood pressure is elevated to a range of 30 to 60 mmHg.

26. The method as in claim 14 wherein the renal vein pressure is elevated to a range of 30 to 60 mmHg above a baseline venous pressure of the patient.

27. The method as in claim 20 wherein a balloon size is adjusted based on a sensed renal vein pressure.

28. The system for treating radiocontrast nephropathy in a mammalian patient comprising:

a renal catheter further comprising a distal tip section having a renal vein occlusion device and a renal vein pressure detector, and a proximal section external of the patient when the distal tip section is positioned in a renal vein, and

an actuator for the renal vein occlusion device and connectable to the proximal section of the renal catheter, wherein said actuator controls the renal vein occlusion device.

29. The system as in claim 28 further comprising a controller for the actuator wherein said controller monitors the renal vein pressure based on signals

from the pressure detector and actuates the occlusion device in response to the renal vein pressure

30. The system as in claim 28 wherein the occlusion device is an expandable device at a distal section of the catheter.

31. The system as in claim 30 wherein the expandable device is positionable in a renal artery leading to the at least one kidney.

32. The system for artificially protecting a kidney during a renal insult in a mammalian patient comprising:

means for at least partially occluding at least one renal vein of the patient, and

means for controlling an increase in renal vein blood pressure during a period corresponding to the insult.

33. The system as in claim 32 wherein the renal insult is a radiocontrast infusion and the period corresponding to the insult is a period of high concentration of contrast in blood of the patient.

34. The system as in claim 32 wherein the renal insult is a surgical procedure.

35. The system as in claim 32 wherein the renal insult is a hypotension.

36. The system as in claim 32 wherein the means for at least partially occluding further comprises a catheter having an expandable device at a distal section of the catheter.

37. The system as in claim 36 wherein the expandable device is positionable in a renal artery of the at least one kidney.

38. The system for artificially protecting a kidney during a renal insult in a mammalian patient comprising:

a renal catheter further comprising a distal tip section having a renal vein occlusion device and a renal vein pressure detector, and a proximal section external of the patient when the distal tip section is positioned in a renal vein, and

an actuator for the renal vein occlusion device and connectable to the proximal section of the renal catheter, wherein said actuator controls the renal vein occlusion device.

39. The system as in claim 38 further comprising a controller for the actuator wherein said controller monitors the renal vein pressure based on signals from the pressure detector and actuates the occlusion device in response to the renal vein pressure

40. The system as in claim 38 wherein the occlusion device is an expandable device at a distal section of the catheter.

41. The system as in claim 38 wherein the expandable device is positionable in a renal artery leading to the at least one kidney.

42. The system as in claim 38 wherein the renal insult is a radiocontrast infusion.

43. The system as in claim 38 wherein the renal insult is a surgical procedure.

44. The system as in claim 38 wherein the renal insult is a hypotension.

45. The system as in claim 38 wherein the means for at least partially occluding further comprises a catheter having an expandable device at a distal section of the catheter.

46. The system as in claim 45 wherein the expandable device is positionable in a renal artery of the at least one kidney.